

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
12 February 2004 (12.02.2004)

PCT

(10) International Publication Number  
**WO 2004/012874 A1**

(51) International Patent Classification<sup>7</sup>: **B05D 3/00**, 3/10,  
7/14, A61L 27/00, 27/28, 27/54, 31/00, 31/16, 33/00

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(21) International Application Number:  
PCT/US2003/018270

(22) International Filing Date: 11 June 2003 (11.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/400,817 2 August 2002 (02.08.2002) US

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD,  
SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US,  
UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

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(54) Title: **CROSS-LINKED NITRIC OXIDE-RELEASING POLYAMINE COATED SUBSTRATES, COMPOSITIONS COM-  
PRISING SAME AND METHOD OF MAKING SAME**

(57) **Abstract:** The invention provides a method for preparing a nitric oxide-releasing medical device. The method includes con-  
tacting an amine-functionalized silane residue with a substrate, e.g., a metallic substrate, contacting the amine-functionalized silane  
residue with a cross-linking agent, contacting at least one nucleophilic residue with the crosslinked amine-functionalized silane  
residue, and contacting the nucleophilic residue with nitric oxide gas. The invention also provides a method of contacting the  
cross-linked amine-functionalized silane residue with at least one nitric oxide-releasing functional group. Furthermore, the inven-  
tion provides a medical device for delivering nitric oxide in therapeutic a concentration, wherein the device comprises a substrate  
having nitric oxide bound thereto through diazeniumdiolated nucleophiles bonded to silane intermediates. The silane intermediates  
are bonded to the substrate and are amine-functionalized and crosslinked.



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